

REMARKS

The Drawings and claims 23-24 were objected to. Claims 22, 25-29 were rejected under 35 U.S.C 103(a). Claims 23 and 24 would be allowable if rewritten in independent form. Claims 30-42 are withdrawn per a restriction requirement and are cancelled herein. Claims 43 and 44 have been added.

In response to the Examiner's indication of allowable subject matter, claim 22 has been amended to include the limitations of objected-to claim 23, and claim 23 has been cancelled herein, thereby placing claim 22 and its dependent claims 24-29 into condition for allowance.

Affirmation of election:

The Applicant hereby affirms the election of the invention of group I.

Amendment to the Drawings and Specification:

In response to the Examiner's objection to the drawings, a Replacement Drawing sheet 5/5 containing revised Figure 11 is herewith submitted. The Specification is also amended herein to reflect the abbreviations used in the Figure.

With regards to newly added claims 43 and 44

Newly added claim 43 includes, "... means for producing a time difference output signal...; and means for calculating a partial discharge location..." As described in relation to the embodiment of paragraph 00046 of the Substitute Specification, these limitations clearly distinguish that the time difference output signal of the instant invention is determined by the time difference between the arrival of a first partial discharge output signal from the first sensor at the time differencing module, and the arrival of the second partial discharge output signal from the second sensor at the time differencing module. The value of the time difference is produced as the time difference output signal at the time difference output.

In contrast, the Maureira et al. (US 5,416,418) applies a distinctly different means to determine the time difference. In Maureira et al., teaches "... measuring the time differential between detecting the first transient pulse and the third transient pulse at the first sensor, and calculating the distance of the partial discharge site from one of said first and second sensors based on the time differential ...", see column 3, lines 23-42. Without the use of the generated third transient pulse, Maureira et al. would be unable to determine the time difference used to calculate the location of the partial discharge.

MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim. Maureira et al. fails to operate using the means for producing a time difference output signal limitation of claim 43 of the instant invention and therefore does not anticipate this claim.

Newly added claim 44 includes the "time difference module" and "calculation module" as illustrated in FIG. 11. As explained above, these claimed structures determine discharge location via the time difference output signal using the arrival of the first and second partial discharge output signals, rather than by using first and third transient pulses/output signals as is done in the cited prior art patent to Maureira.

Further, where Maureira et al. teaches applying a generated transient pulse for use in locating the partial discharge, it teaches introducing an additional electrical discharge into the cable which increases the likeliness of cable degradation. Where the instant invention uses only the partial discharge signal from the actual partial discharge, no addition cable deterioration results.

Conclusion

The Drawings, Specification, and claims have been amended and reconsideration and allowance of claims 22, 24-29, and 43-44 in light of the amendments and remarks herein is respectfully requested. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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